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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/684,296	10/10/2003	Christopher L. Stone	03104	7918

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SUGHRUE MION, PLLC  
401 Castro Street, Ste 220  
Mountain View, CA 94041-2007

EXAMINER
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QIN, JIANCHUN

ART UNIT	PAPER NUMBER
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2837

DATE MAILED: 12/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/684,296	Applicant(s) STONE ET AL.	
	Examiner Jianchun Qin	Art Unit 2837	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,2 and 22-50 is/are pending in the application.  
     4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,22-27,31-33,36-43 and 45-50 is/are rejected.
- 7) ☒ Claim(s) 28-30,34,35 and 44 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10/10/03 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |  |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>9/21/05</u> . | 6) <input type="checkbox"/> Other: ____  |

**DETAILED ACTION**

***Election/Restrictions***

1. The Examiner made an Election/Restrictions to the subject case on Sept 19, 2005. The Election/Restrictions of the subject case was mailed out on Oct 05, 2005. However, Applicant(s) filed a Preliminary Amendment on Sept 21, 2005, which was after the Examiner made the Election/Restrictions. Therefore, the finality of the Office Action of Oct 05, 2005 is hereby withdrawn, and the Examiner performs a new Office Action based on the Preliminary Amendment dated Sept 21, 2005 as follows.

***Information Disclosure Statement***

2. The information disclosure statement filed on 02/11/2004 has been received. However, the reference "Garritan Personal Orchestra Ensemble Building" has not been considered by the Examiner because it does not contain sufficient information. Specifically, it is short of a date which is required by MPEP 609.

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the

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applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1, 22-25, 31-33, 37 and 39-43 are rejected under 35 U.S.C. 102(e) as being anticipated by Fay (U.S. Pub. No. 20050056143).

With respect to claim 1:

Fay teaches a method for assigning notes to be played by a musical synthesizer to a predetermined number of channels of said musical synthesizer (Abstract), said method including the following steps: (a) receiving a signal indicating a new note event, wherein a new note event is one of the following two events relating to a particular note: (i) the addition of said particular note (referred to herein as a "note-on event") to the notes being played by the musical synthesizer and (ii) the deletion of said particular note from the notes being played by said musical synthesizer (sections 0014, 0040 and 0046); (b) determining whether said new note event is a note-on event (sections 0014, 0053 and 0054); (c) if said new note event is a note-on event, adding said particular note to a notes-on list (sections 0014, 0053 and 0054); (d) if said new note event is not a note-on event, deleting said particular note from said notes-on list (sections 0014 and 0055); (e) determining how many notes are on said notes-on list (sections 0044 and 0054); (f) selecting an assignment table corresponding to the predetermined number of channels and how many notes are on said notes-on list (Figs. 4 and 5; sections 0052 and 0054); (g) assigning notes to said channels pursuant to said assignment table and said notes-on list (sections 0042 and 0044-0046); and (h) sending to said musical

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synthesizer a set of commands corresponding to the assignment of notes to channels (sections 0045-0048, 0050 and 0054).

With respect to claims 32:

Fay teaches a method for dynamically assigning notes to be played by a musical synthesizer (Abstract) comprising: providing at least one note assignment table (Fig. 5); setting a predetermined number of channels for playing assigned notes (section 0014); determining the number of notes to be played at a current instance (sections 0044, 0054); using said note assignment table to assign each of said notes to a respective channel of said predetermined number of channels (sections 0042 and 0044-0046).

With respect to claim 22 and 37:

Fay further teaches: when the number of notes on said notes-on list is larger than the predetermined number of channels, the method further performs the steps of identifying certain notes as supplemental notes; and performing additive polyphony to assign said supplemental notes to said channels (sections 0044-0051).

With respect to claims 23-25 and 39-41:

Fay further teaches: said assignment table comprises an orchestral algorithm (Fig. 3); said assignment table comprises a lookup table. (Fig. 5); said assignment table comprises an allocation map (sections 0060).

With respect to claims 31:

Fay further teaches: said step (h) comprising sending to a channel commands buffer a set of commands corresponding to the assignment of notes to channels (sections 0045-0048, 0050 and 0054).

With respect to claims 33, 42 and 43:

Fay further teaches: wherein providing at least one note assignment table comprises providing a plurality of note assignment tables and wherein the method further comprises selecting one of the note assignment tables to assign each of said notes (sections 0042, 0044-0046 and 0052-0056); wherein each of said channels represent a single musical instrument (section 0014); and wherein each of said channels represent a sub-section of an orchestral section (section 0014).

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 2, 26, 27, 36, 38 and 45-50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fay (U.S. Pub. No. 20050056143) in view of Kay (U.S. Pub. No. 20040099125).

With respect to claim 2:

Fay teaches a method for assigning notes that includes the subject matter discussed above except for determining how many notes are on said notes-on list and if there is not at least one note on said notes-on list, issuing a note-off command to said musical synthesizer for any note currently being played on any channel.

Kay discloses a method and apparatus for processing an note series collected from a real-time source of musical input material (sections 0014 and 0015), comprising the step of: determining how many notes are on a notes-on list and if there is not at least one note on said notes-on list, issuing a note-off command to a musical synthesizer for any note currently being played on any channel (sections 0792 and 0799).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to include the teaching of Kay in the invention of Fay in order to provide a mechanism for achieving duration effects in assigning a note to the synthesizer dynamically (Kay, section 0799).

With respect to claim 26:

Fay teaches a method for assigning notes that includes the subject matter discussed above except for performing one of a top weighting and a bottom weighting assignment of said notes.

Kay discloses a method and apparatus for processing an note series collected from a real-time source of musical input material (sections 0014 and 0015), comprising the step of: performing one of a top weighting and a bottom weighting assignment of said notes (sections 0221 and 0342).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to include the teaching of Kay in the invention of Fay in order to allow the assignment to be influenced by favoring certain areas of the note series (Kay, section 0221).

With respect to claim 45:

Fay teaches a note allocation processor operable in conjunction with an input device and a note player, said note player having a predetermined number of channels (Abstract), said note allocation processor comprising: an input for receiving note signals from said input device (sections 0013 and 0014); an output for providing note assignment to said note player (section 0015); at least one note assignment table (Fig. 5); a central processor preprogrammed to obtain the number of notes and assign each note to a respective one of said channel according to said note assignment table (sections 0042, 0044-0046 and 0054).

Fay does not mention expressly: a note counter.

Kay discloses a method and apparatus for processing an note series collected from a real-time source of musical input material, comprising a note counter (section 0554).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to include the teaching of Kay in the invention of Fay in order to provide robust mechanism for obtaining the number of notes in a note series stored in memory (Kay, section 0554).

With respect to claims 46 and 48-50:

Fay further teaches: a channel comparison counter indicating the number of channels having been assigned a note (sections 0045-48, 0050 and 0054); a notes-on list memory storing all notes to be played at a given instance (section 0015); a notes-on list memory storing all notes to be played al a given instance, and wherein when the



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number of notes to be played exceeds said predetermined number of channels, said central processor designates selected ones of said notes on as Ming supplemental notes (sections 0044-0051); each of said note signals represents one of: a single musical instrument, an orchestral section, and a non-musical instrument audio sound. (sections 0014 and 0015).

With respect to claims 27, 36, 38 and 47:

Fay teaches a note allocation processor that includes the subject matter discussed above except for a sorted note list memory, and wherein said central processor sorts said notes according to the pitch of said notes and stores a sorted note list in said sorted note list memory.

Kay teaches a sorted note list memory, and a central processor sorts a note series according to the pitch of said note series and stores a sorted note list in said sorted note list memory (sections 0389 and 0449).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to include the teaching of Kay in the invention of Fay in order to provide a simple mechanism to facilitate the processing of the note list (Kay, section 0254).

### ***Allowable Subject Matter***

7. Claims 28-30, 34, 35 and 44 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Reasons for Allowance***

8. The following is an examiner's statement of reasons for allowance:

The primary reason for the allowance of claims 28 and 29 is the inclusion of the limitation that when said new note event is a deletion of said particular note, the method performs the step of assigning a different note from said note-on list to the channel that was previously playing said particular note. It is this limitation found in each of the claims, as it is claimed in the combination that has not been found, taught or suggested by the prior art of record, which makes these claims allowable over the prior art.

The primary reason for the allowance of claim 30 is the inclusion of the limitation that when said note event is a note-on event, said set of commands further comprises a hard-note instruction. It is this limitation found in the claim, as it is claimed in the combination that has not been found, taught or suggested by the prior art of record, which makes this claim allowable over the prior art.

The primary reason for the allowance of claims 34 and 35 is the inclusion of the limitation that at least one of said note assignment tables comprises a preferential weighting note assignment table. It is this limitation found in each of the claims, as it is claimed in the combination that has not been found, taught or suggested by the prior art of record, which makes these claims allowable over the prior art.

The primary reason for the allowance of claim 44 is the inclusion of the limitation of providing one of a hard-note and soft-note instruction to each of said predetermined number of channels. It is this limitation found in the claim, as it is claimed in the

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combination that has not been found, taught or suggested by the prior art of record, which makes this claim allowable over the prior art.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."


***Contact Information***

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jianchun Qin whose telephone number is (571) 272-5981. The examiner can normally be reached on 8:00am - 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Martin can be reached on (571) 272-2107. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jianchun Qin




DAVID MARTIN  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800

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JQ   
December 12, 2005